

The Japanese Experience in Industrial Agglomeration Policies and Its Lessons

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Industrial agglomeration policies were an important part of regional development policies in post war Japan. This paper compares four such initiatives, two each in the 1960s and 1980s, and draws lessons from them. The general tendency towards more discretion on the part of the local governments, coupled with less policy support from the central government, is observed. All these initiatives were abandoned around the turn of the century. The results of these policies are mixed but as a whole considered to be not effective enough to build meaningful agglomerations that serve as core. These experiences are then compared with other types of agglomerations with more or less naturally grown network of companies in certain area of industry, such as Silicon Valley. The role of policy is examined and lessons are drawn from the analysis.

Background

Development of economy in a country is almost always accompanied by consideration for uneven speed of growth among individuals, industries, regions and so on. This is more acute in rapidly expanding economies, as seen in modern day fast growing economies, such as China.

Japan is no exception to the rule. Before the WW2, consideration for development of lagging region appeared after the WW1. Rapid urbanization brought about a dual economy and the government tried to correct this through infrastructure buildup and support for rural industries¹⁾.

From the point of economic efficiency, it is argued that some form of concentration of economic activities is desirable and many countries have adopted this

strategy. But in many cases, there is an inevitable political pressure to address the imbalances between rapidly growing and lagging regions. In the inter-war period of Japan, rapid industrialization of four urban zones created wider income disparity between urban and rural area and the investment such as roads and ports was directed more to areas other than the four areas to correct it. But in the 1920s public works budget was allocated for the reconstruction of the Tokyo Metropolis, devastated by the Great Kanto Earthquake in 1923 and infrastructure buildup in rural regions stagnated²⁾.

It was ten years after the end of the war that Japan was back on its foot to begin its high economic growth. It was then that the issue of regional development came back again on the major economic and political agenda. The policies

beyond that point are the main topic of this paper.

I. High economic growth era

It is widely regarded that the start of the high economic growth era in Japan is around the middle of the 1950s. The White Paper on Economy in 1956 famously wrote, "It is not post-war era any more. We now face a different situation. Growth through recovery is over. Growth from now on is supported by modernization."³⁾ One thing that changed at this time was the introduction of medium-term economic plans, which, unlike those in socialist countries, have more flexible features. For example, there is not fixed term for each plan and the decision to form a new plan is left to the government. Probably the most important of these economic plans is "Doubling National Income Plan", adopted in December 1960. It was the hallmark of the Ikeda cabinet, which took office in July 1960. In addition to the high rate of economic growth, it is noted that it was the first economic plan that took up squarely the issue of disparity in the Japanese economy. Detailed analysis of income disparity among social classes, wage difference based on company size, disparity between agriculture and manufacturing, productivity difference and regional disparity was conducted for the plan. Related to this, the issue of

regional development within the framework of economic plans was actively taken up. This would lead to the concept of comprehensive national land development plan, which will be discussed in the next section.

II. Comprehensive national land development plan

The high growth policy pursued in the Doubling National Income Plan created a debate on regional development policy. As labor became more scarce, migration from low income area to high income area, especially long distance move across prefectural borders, became common⁴⁾. The outflow initially consisted of surplus labor force in rural areas but its rapid pace weakened the economic and social base of the local communities and at the same time caused over congestion in the urban areas. Thus this issue started to attract social and political interests.

During the process of formulating Doubling National Income Plan, the concept of 'Pacific Belt Zone' was floated. Its main idea was to set up medium sized industrial agglomerations across the 'belt zone' that connects the four traditional large industrial zones. This was supposed to address the disparity problem, taking into account the actual geographical location of industries, but it invited also the criticism, especially from the low income

areas, that it did not face seriously the regional development issue. At the time of cabinet approval of the Doubling National Income Plan, a note that recommends a swift formulation of a comprehensive national development plan to give priority to lagging areas was attached.

It is arguable that the Ikeda administration was fully convinced of the importance and necessity of regional development, giving more resources to lagging areas. Rather, it was a political compromise in order to get the Doubling National Income Plan approved⁵⁾. With scarce resources available for development at that time, especially under strict balanced budget principle, these two were trade-offs.

The legislation for comprehensive national land development was enacted in 1950. The law defined development plans at various levels: there is comprehensive national development plan as master plan, under which there are plans for regions, prefectures and specific areas. But the actual process of plan formulation was slow. At first, there were only plans for specific areas and prefectures and they lacked concrete support measures⁶⁾. The first attempt for comprehensive development plan was "Draft concept of comprehensive development" in 1954 but it did not materialize.

One of the concepts that surfaced during the formulation of the Doubling National Income Plan was "Pacific Belt

Zone". It consisted of making the Pacific coastal areas connecting the four traditional industrial areas new industrial zones, limiting concentration in the 4 areas. This was a practical method, given the existing location of industries, but at the same time tried to address the issues of congestion and bottlenecks in the four areas. It was well-suited for the demand of the industries at that time, which faced an increasing pressure from trade and exchange liberalization. But as was already mentioned earlier, this invited criticism mainly from low income areas. As a matter of fact, "The Law for the Promotion of Industrial Development in Low Development Areas" was enacted in November 1961, before the comprehensive national land development plan.

Thus, the government accelerated the process of formulating the first comprehensive national land development plan, which was finally approved by the cabinet decision in October 1962. The main philosophy of the plan was "stronghold development" (*kyoten kaihatsu*), in which certain concentration of basic infrastructure is build to create environment for private companies to be profitable, thus causing a chain reaction of economic development in the region.

III. New industrial cities and special industrial development zones

The most famous policy that embodied

the notion of stronghold development of the comprehensive national land development plan was "new industrial cities".

1. Objectives

The law stipulates its ultimate objectives as "to contribute to balanced development of the national land and growth of the national economy" and for that purpose "to promote the building of new industrial cities as the core of development of the region"⁷⁾.

2. Designation of areas and its consequences

The law mandates the prime minister to designate the areas as new industrial cities, after the deliberation in the national land council, based on the possibility of building sizable city-industry. The process begins with the request by the prefectural governors or the ministers in charge. The selection of the designated areas was the center of attention, especially in political context, and 44 areas vied for designation. During the process of designation, Kiichi Miyazawa, then the minister for the Economic Planning Agency, who was in charge, expressed that the areas in the Pacific Belt Zone be excluded⁸⁾. Actually, of the 15 areas that were finally designated, only two, which already had plans for petrochemical complex, were in the Pacific Belt Zone.

This seemingly contradictory behavior of the government stems from the competition between the two different schools of thought, the one emphasizing

the merit of agglomeration and the other balanced growth⁹⁾. The latter emerged as the winner but the pressure from the former, together with that from the areas not designated, prompted another legislation, the Law for the Promotion of Development of Special Industrial Zones, enacted in 1964.

This law differs from the New Industrial Cities Law in the way to designate the areas. Namely, the areas are defined in the law (the designation of the prime minister was needed technically). The six areas are all on the Pacific Belt and most of them had existing industrial base or relatively concrete development plan.

In spite of somewhat different background, the two laws soon became to be treated as one policy package. One reason is the policy measures to support the designated areas, which will be dealt with in the next section.

3. Support measures

The main pillar of the policy for the new industrial cities and special industrial zones is the basic plan for development. Under the laws, the prefectural governors should submit the plan for approval by the prime minister. The first plans covered a relatively long period of time from around 1965 to 1975, but the subsequent plans each covered 5 year period.

The plan should contain such items as the target for industrial development,

population growth, land use and infrastructure buildup, as well as the projected cost for development.

The policy support measures are common to the two laws (Table 1). They include fiscal support, special consideration for the issuance of local government bonds, support through general subsidy when local tax is alleviated and so on. The fiscal measures were defined by a separate legislation, Law for Special Fiscal Measures of the Central Govern-

ment for the Development of New Industrial Cities and Special Industrial Zones. The duration period of the effect of fiscal support measures coincided with that the development plan. This means that support measures should be renewed every five years through not only the approval process of the plans within the government but also the parliamentary process to renew this law.

4. Performance and ultimate demise

The new industrial cities and special

Table 1 Comparison of legislations for industrial agglomeration

Laws	Law for the promotion of construction of new industrial cities (New industrial city law)	Law for the promotion of development of special industrial zones (Special industrial zone law)	Law for the promotion of development of high technology agglomeration (Technopolis law)	Law for the promotion of acceleration of agglomeration of specific projects which contribute to the sophistication of local industries (Brain site law)
Time put into effect	August 1962	July 1964	May 1983	June 1988
Time abolished	March 2001	March 2001	December 1998	December 1998
Objectives	Development of the basis for industries as local hub Balanced growth of the national land	Development of the basis for industries Balanced growth of the national land	Promotion of industrial development based on high technology Improvement of local residents' life and balanced growth of the national land	Sophistication of local industries through agglomeration of projects Improvement of local residents' life and balanced growth of the national land
Designation	Prime minister Suitable conditions for comprehensive construction Land, water, transportation	Prime minister Designation by law	Approval of development plan by the minister in charge High speed transport Scient oriented university	Approval of agglomeration promotion plan by the minister in charge Sizable industrial agglomeration Human resources
Number of areas designated	15	6	26	26
Policy measures Project subsidies(1)	Yes	Yes	No	No
Local gov't bonds (2)	Consideration	Consideration	No	No
General subsidies (3)	Yes	Yes	Yes	Yes
Taxation (4)	Yes	Yes	Yes	Yes
Special loans (5)	Yes	Yes	Yes	Yes

Notes

- (1) Higher rate of subsidization from the national government for projects such as road construction.
- (2) Relaxed conditions for the issuance of local government bonds.
- (3) Increased general transfer of funds from the national government to the local governments.
- (4) Deduction of taxes.
- (5) Lending through policy lending organizations.

Source: Author based on National Land Agency (Compendium of statistics of the national land)

industrial zones were first touted as the strong support and attracted much interest, both popular and political, and the policy was maintained until their abolition in 2001. If we look at the performance of the designated areas (Table 2,3), the share in industrial shipment of the designated areas increased from 1960 to 1975. In this period, giving more resources for development to the Pacific Belt Zone made sense¹⁰⁾.

The change came in the 1970s, when the problems associated with over concentration of population and activities in the big cities, such as pollution and congestion became apparent. On the political side, the emergence of Kakuei Tanaka as prime minister, with his policy "Plan for Remodeling the Japanese Archipelago" in the early 1970s was crucial. The investment for development began to be directed for diversification and the per-

formance of the designated areas was not significantly superior to the other areas after that.

The fact that the laws existed until long after the 1970s, when its effective power was lost, needs to be addressed. There are several possible explanations for this. It might be just an inertia effect. Since the policy was greatly popular at the beginning it was politically risky to kill it even though not much effective support was left. Another is the inherent nature of duality (or inconsistency) of the policy objectives regarding where to foster agglomerations. Even after the cause for Pacific Belt is lost, the policy survived because the areas outside the Belt Zone were included and the risk to abandon any support for these areas (whether real or not) might be too large to ignore.

The ultimate demise of the policy was

Table 2 The performance of new industrial cities and special industrial zones (1)

Population (10 thousands, %)								
	Actual							Projected
	1960	1975	1980	1985	1990	1995	1996	2000p
a. New industrial cities	1,003.5	1,189.8	1,264.1	1,311.4	1,336.5	1,367.4	1,365.6	1,397.6
(a./c.)	(10.6)	(10.6)	(10.8)	(10.8)	(10.8)	(10.9)	(10.9)	
b. Special industrial zones	351.2	445.6	468.2	484.6	492.1	503.2	503.8	516.3
(b./c.)	(3.7)	(4.0)	(4.0)	(4.0)	(4.0)	(4.0)	(4.0)	
a. + b.	1,357.6	1,635.5	1,732.3	1,796.0	1,828.6	1,870.6	1,869.4	1,913.9
((a.+b.)/c)	(14.4)	(14.6)	(14.8)	(14.8)	(14.8)	(14.9)	(15.0)	
c. Japan total	9,430.2	11,194.0	11,706.0	12,104.8	12,361.2	12,556.9	12,491.4	12,738.5
Growth rate (%)								
Period	Actual					Projected		
	1975/1965	1980/1975	1985/1980	1990/1985	1995/1990	2000p/1995		
a. New industrial cities	1.3	1.2	0.7	0.4	0.5	0.4		
b. Special industrial zones	1.8	1.0	0.7	0.3	0.5	0.5		
a. + b.	1.4	1.2	0.7	0.4	0.5	0.5		
c. Japan total	0.2	0.9	0.7	0.4	0.3	0.3		

Source: Kokudo Tokei Yorán (Compendium of statistics of the national land)

in 2001, coinciding with the reorganization of the central government. The organization that was responsible, National Land Agency (more or less corresponds to ministry with state minister as its head) was disbanded to be absorbed in several new ministries¹¹⁾. The abolishment of the laws passed the parliament without much fanfare (or funeral bell, for that matter).

IV. Technopolis and brain sites

It was in the 1980s when a renewed interest on industrial agglomeration policy surfaced. At that time, new type of agglomerations such as the Silicon Valley was getting attention worldwide. The idea of "technopolis" appeared in "The Vision of International Trade and Industry Policy in the 1980s", published by the Ministry of International Trade and Industry (MITI).

1. Basic philosophy

MITI emphasized 3 basic points on this initiative. First, it is aimed at building technological stronghold to attain

self-supporting regional economies. Second, it contributes to building technologically advanced Japan by developing advanced technological industry in the regions. Third, private and regional initiatives should play an important role. There is a difference from the previous policies, which reflects the change in economic and industrial situation that had taken place.

2. Structure of the policy

In 1983, "Law for the Promotion of High Technology Industry Agglomeration Area Development", better known as the Technopolis Law was enacted. The basic structure of the law is as follows. First, the guideline for technopolis development is set by the ministers in charge (of international trade and industry, construction, agriculture, and national land). Then, prefectural governors submit a development plan for approval. When the plan is approved by the ministers, various support measures are applied.

As in the case of new industrial cities and special industrial zones, the competi-

Table 3 The performance of new industrial cities and special industrial zones (2)

	Industrial shipment (100 million yen, %)							
	Actual							Projected
		Plan I	Plan II	Plan III	Plan IV	Plan V	Plan VI	
Year	1960	1975	1980	1985	1990	1995	1996	2000p
a. New industrial cities	12,379	124,112	217,591	249,623	282,434	287,631	290,797	333,805
(a./c.)	(7.9)	(9.7)	(10.1)	(9.4)	(8.6)	(9.4)		
b. Special industrial zones	9,478	96,169	154,674	192,012	229,326	228,929	236,505	267,855
(b./c.)	(6.1)	(7.5)	(7.2)	(7.2)	(7.0)	(7.5)		
a. + b.	21,857	220,281	372,265	441,635	511,760	516,560	527,302	601,660
((a.+b.)/c)	(14.0)	(17.3)	(17.3)	(16.6)	(15.6)	(16.9)		
c. Japan total	155,786	1,274,329	2,146,998	2,653,206	3,270,931	3,060,296		

Source: Kokudo Tokei Yoran (Compendium of statistics of the national land)

tion for approval of the plan was fierce. Of the 38 "candidates"¹³⁾ that moved, 26 got the final approval.

As for policy support measures, it should be noted that they were relatively thin compared to new industrial cities and special industrial zones¹³⁾. This is partly due to more stringent fiscal situation of the central government and also due to emphasis on private and regional initiatives.

Approval of the plan, which also means designation of the area, of technopolis has some characteristics. First, the number of the plans (areas) was greater. Second, many of them were outside the Pacific Belt and not in the coastal areas. With a large number of designated areas¹⁴⁾ and the fact that many plans were commissioned to consultants, it was difficult to discern them from each other¹⁵⁾. The enthusiasm that arose in the early stage quickly faded. The law itself was abolished in 1998 and although some part of it was included in a new law, the original philosophy is lost.

3. Brain sites

Five years after the enactment of the Technopolis Law, another law, Law for the Promotion of Agglomeration of Specific Industries that Contribute to the Sophistication of Local Industries, commonly called Brain Sites Law was enacted. This was intended to supplement the Technopolis by promoting the

agglomeration of software industries and research facilities. Actually, the areas whose plan was approved under this law mostly overlap with those of technopolis.

4. Performance of the areas

As noted, with small difference among the areas and relatively thin policy support it is widely believed to have a significant impact on building meaningful agglomerations such as the Silicon Valley.

V. Silicon valley type industrial agglomerations

There are numerous literatures on the formation of the Silicon Valley. There are also many studies on "natural" agglomerations in more traditional industries, ranging from fashion in Italy to mechanical engineering in coastal area in Ohta-ku, Tokyo. Although it is difficult to present a common view on these very diverse areas and industries, they seem to point to the use of geographical proximity to their advantage. Higashi (2001) points out as follows. "When there are multiple companies related with each other within the distance where employees can come and go frequently, the exchange of knowledge and ideas is activated. As a result, many companies in a certain continuous area as a whole lead technical innovation and leave the other regions in the dust technologically."¹⁶⁾

The traditional policies reviewed in

this paper do not seem to be suited to create this type of industrial agglomerations. In addition to the fact that the number of designated areas is too large to form meaningful agglomerations, the policy support is too thinly distributed and not suited for the purpose.

VI. Lessons learned from the Japanese experiences

It is difficult to be conclusive because of the long and diverse course of policy in Japan. However, some facts emerge that may be of use in the future or in other circumstances.

1. Concentration of policies

The degree of concentration of policies is always the central issue. Agglomeration naturally assumes the existence of some form of economy of scale or scope in geographical terms. It means that more concentrated efforts or policy measures on fewer areas are better. Whether this is politically acceptable or palatable is another matter. The relative strength and capability of the central government and the local governments play a crucial role.

2. Selection of appropriate policy measures

This is especially important in building a silicon valley type agglomeration. Government tends to focus on direct support or intervention but for naturally grown agglomerations, policies to

encourage private initiatives, coupled with support to core research institutes or higher education facilities may be effective.

Notes

- 1) Fujii (2004)
- 2) Fujii, *ibid.*
- 3) Economic Planning Agency (1976)
- 4) The proportion of cross prefecture move of population to total migration rose from 43.7% in 1956 to 50% in 1962. (Economic Planning Agency, *ibid.*)
- 5) Fujii, *ibid.*
- 6) The number of specific areas was more than 20 and spread across all Japan. [Fujii, *ibid.*]
- 7) The actual phrase of the law is much longer but here only the basic philosophy is quoted.
- 8) Fujii, *ibid.*
- 9) Fuji, *ibid.*
- 10) Fujii, *ibid.* notes the difference in performance between the areas in the Belt and those outside.
- 11) The creation of the Agency in 1974 was itself a reflection of the policy change. Various departments from the ministries were assembled to establish it.
- 12) The move began when the "Vision" was published in 1980, well before the enactment of the law in 1983.
- 13) The biggest difference is the absence of fiscal measures in technopolis policy.
- 14) Some argue that the conditions for approval are mostly met for prefectural capitals with science department of national universities. Ito (1998)
- 15) Ito, *ibid.*

16) Higashi (2001)

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